

REMARKS/ARGUMENTS

Applicants elect to prosecute the claims of Group 1 (claims 1, 6, 31 (in part), and 32 (in part) in the present application. Applicants further elect with traverse to prosecute claims directed to SEQ ID NO: 4. In the Office Action, the Examiner states that restriction between these sequences is proper because they lack the same or corresponding special technical features, as required by PCT Rule 13.2. In particular, the Examiner states that the sequences disclosed and claimed in the present application do not share a common structure or function that distinguished them from the prior art. In fact, as explained below, SEQ ID NOs: 4 and 6 do share such a common technical feature.


As shown in Figure 2(C) of the present application, SEQ ID NOs: 4 and 6 are splice variants of MICAL2-PV. SEQ ID NO: 4 is the “long form” and SEQ ID NO: 6 is the “short form.” These two proteins have unique C-terminal structures as compared with MICAL2 that can be seen in an alignment of the SEQ ID NOs: 4, 6, and MICAL2, shown in the attached appendix. As can be seen the N-terminal sequence from the 1st to the 739th residue is common to the three proteins. However, the same C-terminal sequence is present in SEQ ID NO: 4 (residues 889-976) and SEQ ID NO: 6 (residues 865-955), but is *not* present in MICAL2. Thus, SEQ ID NOs: 4 and 6 share a special technical feature that distinguishes them over the prior art.

CONCLUSION

In view of the foregoing, Applicants believe that unity between SEQ ID NOs: 4 and 6 should be acknowledged in the present application. Applicants respectfully request withdrawal of the restriction between these two sequences.

If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at 415-576-0200.

Respectfully submitted,



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Attachments
KLB:klb
61256477 v1

Appendix

Sequence 1: SEQ ID NO: 4 976 aa
 Sequence 2: SEQ ID NO: 6 955 aa
 Sequence 3: known MICAL2 1124 aa

SEQ ID NO: 4	MGENEDEKQAQAGQVFENFVQASTCKGTLQAFN ILTRHLDLDPLDHRNFYSKLSKVTTW	60
SEQ ID NO: 6	MGENEDEKQAQAGQVFENFVQASTCKGTLQAFN ILTRHLDLDPLDHRNFYSKLSKVTTW	60
known MICAL2	MGENEDEKQAQAGQVFENFVQASTCKGTLQAFN ILTRHLDLDPLDHRNFYSKLSKVTTW	60

SEQ ID NO: 4	KAKALWYKLDKRGSHKEYKRGKSCTNTKCL IVGGGPCGLRTA IELAYLGAKVVVVEKRDS	120
SEQ ID NO: 6	KAKALWYKLDKRGSHKEYKRGKSCTNTKCL IVGGGPCGLRTA IELAYLGAKVVVVEKRDS	120
known MICAL2	KAKALWYKLDKRGSHKEYKRGKSCTNTKCL IVGGGPCGLRTA IELAYLGAKVVVVEKRDS	120

SEQ ID NO: 4	FSRNNVLHLWPFT IHDRLGLGAKKFYGFKFCAGS I D H I S I R Q L Q L I L F K V A L M L G V E I H V N	180
SEQ ID NO: 6	FSRNNVLHLWPFT IHDRLGLGAKKFYGFKFCAGS I D H I S I R Q L Q L I L F K V A L M L G V E I H V N	180
known MICAL2	FSRNNVLHLWPFT IHDRLGLGAKKFYGFKFCAGS I D H I S I R Q L Q L I L F K V A L M L G V E I H V N	180

SEQ ID NO: 4	VEFVKVLEPPEDQENQK IGWRAEFLPTDHSLSSEFEFDV I I G A D G R R N T L E G F R R K E F R G K	240
SEQ ID NO: 6	VEFVKVLEPPEDQENQK IGWRAEFLPTDHSLSSEFEFDV I I G A D G R R N T L E G F R R K E F R G K	240
known MICAL2	VEFVKVLEPPEDQENQK IGWRAEFLPTDHSLSSEFEFDV I I G A D G R R N T L E G F R R K E F R G K	240

SEQ ID NO: 4	LA I A I T A N F I N R N S T A E A K V E E I S G V A F I F N Q K F F Q D L K E E T G I D L E N I V Y Y K D C T H Y F V	300
SEQ ID NO: 6	LA I A I T A N F I N R N S T A E A K V E E I S G V A F I F N Q K F F Q D L K E E T G I D L E N I V Y Y K D C T H Y F V	300
known MICAL2	LA I A I T A N F I N R N S T A E A K V E E I S G V A F I F N Q K F F Q D L K E E T G I D L E N I V Y Y K D C T H Y F V	300

SEQ ID NO: 4	MTAKKQSLLDKGVI I N D Y I D T E M L L C A E N V N Q D N L L S Y A R E A A D F A T N Y Q L P S L D F A M N H	360
SEQ ID NO: 6	MTAKKQSLLDKGVI I N D Y I D T E M L L C A E N V N Q D N L L S Y A R E A A D F A T N Y Q L P S L D F A M N H	360
known MICAL2	MTAKKQSLLDKGVI I N D Y I D T E M L L C A E N V N Q D N L L S Y A R E A A D F A T N Y Q L P S L D F A M N H	360

SEQ ID NO: 4	YGQPDVAMFDFTCMYASENAALVRERQAHQLLVALVGDSLLEPFWPMGTGCARGFLAAFD	420
SEQ ID NO: 6	YGQPDVAMFDFTCMYASENAALVRERQAHQLLVALVGDSLLEPFWPMGTGCARGFLAAFD	420
known MICAL2	YGQPDVAMFDFTCMYASENAALVRERQAHQLLVALVGDSLLEPFWPMGTGCARGFLAAFD	420

SEQ ID NO: 4	TAWMVKSWNQGTTPLELLAERESLYRLLPQTTPEN I N K N F E Q Y T L D P G T R Y P N L N S H C V R	480
SEQ ID NO: 6	TAWMVKSWNQGTTPLELLAERESLYRLLPQTTPEN I N K N F E Q Y T L D P G T R Y P N L N S H C V R	480
known MICAL2	TAWMVKSWNQGTTPLELLAERESLYRLLPQTTPEN I N K N F E Q Y T L D P G T R Y P N L N S H C V R	480

SEQ ID NO: 4	PHQVKHLY I T K E L E H Y P L E R L G S V R R S V N L S R K E S D I R P S K L L T W C Q Q Q T E G Y Q H V N V T D	540
SEQ ID NO: 6	PHQVKHLY I T K E L E H Y P L E R L G S V R R S V N L S R K E S D I R P S K L L T W C Q Q Q T E G Y Q H V N V T D	540
known MICAL2	PHQVKHLY I T K E L E H Y P L E R L G S V R R S V N L S R K E S D I R P S K L L T W C Q Q Q T E G Y Q H V N V T D	540

SEQ ID NO: 4	LTTSWRSGALCAI IHRFRPEL I NFDSL NEDDAVENNQLAFDVAEREF G I PPVTTGKEMA	600
SEQ ID NO: 6	LTTSWRSGALCAI IHRFRPEL I NFDSL NEDDAVENNQLAFDVAEREF G I PPVTTGKEMA	600
known MICAL2	LTTSWRSGALCAI IHRFRPEL I NFDSL NEDDAVENNQLAFDVAEREF G I PPVTTGKEMA *****	600
SEQ ID NO: 4	SAGEPDKLSMV MYLSKFYELFRGTPLRPVDSWRK NYGENADLSLAKSS I SN NYLNLT FPR	660
SEQ ID NO: 6	SAGEPDKLSMV MYLSKFYELFRGTPLRPVDSWRK NYGENADLSLAKSS I SN NYLNLT FPR	660
known MICAL2	SAGEPDKLSMV MYLSKFYELFRGTPLRPVDSWRK NYGENADLSLAKSS I SN NYLNLT FPR *****	660
SEQ ID NO: 4	KRTPRVDGQT GENDMNKRRRK GFTNLDEPSNFSSRSLG SNQECGSSKEGGNQNKVKS MAN	720
SEQ ID NO: 6	KRTPRVDGQT GENDMNKRRRK GFTNLDEPSNFSSRSLG SNQECGSSKEGGNQNKVKS MAN	720
known MICAL2	KRTPRVDGQT GENDMNKRRRK GFTNLDEPSNFSSRSLG SNQECGSSKEGGNQNKVKS MAN *****	720
SEQ ID NO: 4	QLLAKFEESTRNPSLMKQE-----	739
SEQ ID NO: 6	QLLAKFEESTRNPSLMKQE-----	739
known MICAL2	QLLAKFEESTRNPSLMKQERRVSG I GKPVL CSSSGPPVHSCCPKEEATPSPSPPLKRQF *****	780
SEQ ID NO: 4	-----	739
SEQ ID NO: 6	-----	739
known MICAL2	PSVVVTGHVLR ELKQVSAGSECLSRPWRARAKSDLQLGGTENFATLPSTRPRAQALSGVL	840
SEQ ID NO: 4	-----	739
SEQ ID NO: 6	-----	739
known MICAL2	WRLQQVEEK I LQKRAQNLANREFHTKNI KEKAAHLASMF GHGDFPQNKLLSKGLSHTHP	900
SEQ ID NO: 4	-----KKSPSGFHFHPSHLRTVHPQE-----	760
SEQ ID NO: 6	-----	739
known MICAL2	SPPSRLPSDPAASSSPSTVDSASPARKEKKSPSGFHFHPSHLRTVHPQLTVGKVSSGIG	960
SEQ ID NO: 4	-----SMRKSFPLNLGGSDTCYFCKKRVYVMERLSAEGH	794
SEQ ID NO: 6	-----SMRKSFPLNLGGSDTCYFCKKRVYVMERLSAEGH	773
known MICAL2	AAAEVLVNL YMNDHRPKAQATSPDLESMRKSFPLNLGGSDTCYFCKKRVYVMERLSAEGH *****	1020
SEQ ID NO: 4	FFHRECFRCS I CATT LRLAAYTFDCDEGKFYCKPHF I HCKTNSKQRKRAELKQOREEEA	854
SEQ ID NO: 6	FFHRECFRCS I CATT LRLAAYTFDCDEGKFYCKPHF I HCKTNSKQRKRAELKQOREEEA	833
known MICAL2	FFHRECFRCS I CATT LRLAAYTFDCDEGKFYCKPHF I HCKTNSKQRKRAELKQOREEEA *****	1080

886 (NO:4) / 865 (NO:6)

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SEQ ID NO: 4	TWQEQEAPRRDTPTESSCAVAAIGTLEGSPPGISTSFVRKVLGWPLRLPRDLCNWMQGLL	914
SEQ ID NO: 6	TWQEQEAPRRDTPTESSCAVAAIGTLEGSPPGISTSFVRKVLGWPLRLPRDLCNWMQGLL	893
known MICAL2	TWQEQEAPRRDTPTESSCAVAAIGTLEGSP-----	1111

SEQ ID NO: 4	QAAGLHIRDNAYNYCYMYELLSLGLPLLWAFSEVLAAMYRESEGSLETCNWWLRCFPVK	974
SEQ ID NO: 6	QAAGLHIRDNAYNYCYMYELLSLGLPLLWAFSEVLAAMYRESEGSLETCNWWLRCFPVK	953
known MICAL2	-----VHFSLPVLHPLL	1124
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SEQ ID NO: 4	LR	976
SEQ ID NO: 6	LR	955